



INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(51) International Patent Classification 7 :

E21B 7/06, 29/06

A1

(11) International Publication Number:

WO 00/58594

(43) International Publication Date:

5 October 2000 (05.10.00)

(21) International Application Number: PCT/GB00/01162

(22) International Filing Date: 24 March 2000 (24.03.00)

(30) Priority Data:

9907116.9

26 March 1999 (26.03.99)

GB

(71) Applicant (for all designated States except US): SMITH INTERNATIONAL, INC. [US/US]; 16740 Hardy Street, Houston, TX 77205-0068 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): McGARIAN, Bruce [GB/GB]; 23 East Glebe, Stonehaven, Aberdeen AB3 2HW (GB). DEWEY, Charles, Henry [US/US]; 9506 Winter Run Drive, Houston, TX 77065 (US).

(74) Agents: GOODENOUGH, Nigel et al.; AA Thornton & Co., 235 High Holborn, London WC1V 7LE (GB).

(81) Designated States: CA, NO, US, European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE).

Published

With international search report.

(54) Title: WHIPSTOCK CASING MILLING SYSTEM

(57) Abstract

This invention relates to a whipstock casing milling system and, more particularly, to such a system in which a window mill is secured to a whipstock so that the system may be run into a well, set and operated to open a window in a casing during a single trip. The milling system of the present invention comprises a protrusion (B) provided on the whipface of the whipstock wherein the protrusion (B) forms an extension of a relatively steep ramp surface (45) of the whipface so as to reduce damage to said surface (45) at a juncture (A) of said surface (45) with a relatively shallow ramp surface or parallel surface (46) during use of the system. The protrusion (B) thereby avoids an undercutting of a casing and a thinning of the whipstock.

